

## ABSTRACT

A transimpedance amplification apparatus includes a signal source for generating a current signal, a source follower stage, a common source stage and a shunt feedback resistor. The source follower stage having a source follower structure receives the current signal to reduce an impedance of the signal source. The common source stage, following the source follower stage, driven by the reduced signal source impedance, amplifies the current signal to extend a frequency bandwidth of the current signal and buffers the amplified signal with the extended frequency bandwidth thereof maintained, wherein the reduced signal source impedance serves to extend a frequency bandwidth of the common source stage. The shunt feedback resistor, which is installed between the source follower stage and the common source stage, adjusts an input DC bias of the source follower stage and increasing a transimpedance gain of the common source stage.

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